



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/700,272	01/12/2001	Harri Hurme		2854

7590 06/29/2004

Hogan & Hartson  
500 South Grand Avenue Suite 1900  
Los Angeles, CA 90071

EXAMINER
----------

SWERDLOW, DANIEL

ART UNIT	PAPER NUMBER
----------	--------------

2644

DATE MAILED: 06/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/700,272

Applicant(s)

HURME ET AL.

Examiner

Daniel Swerdlow

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-10 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 through 4 and 7 through 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Takato et al. (US Patent 5,402,485).

3. Regarding Claim 1, Takato discloses a subscriber circuit (i.e., an electric device) (Fig. 8) for connecting a subscriber telephone terminal (i.e., an analog data transfer device) (Fig. 8, reference 12) to a digital speech transmission and reception circuit (i.e., a digital transfer system) (Fig. 3, reference 14; column 1, lines 33-35) including control functions (i.e., by means of a control unit) and connecting a telephone line to a telephone terminal (i.e., comprising means for connecting to a data transfer device with a twin cable) (Fig. 3, reference 11, 12; column 4, line 66 through column 5, line 1) comprising: amplifiers (Fig. 8, reference 33-36; column 7, lines 43-47) that supply current to the telephone line (i.e., a current amplifier arrangement for feeding a certain current to a twin cable); a current mirror (i.e., first current switching device) (Fig. 8, reference M5; column 7, lines 38-42) providing input (i.e., switching a first control current) to the amplifiers (i.e., current amplifier arrangement); and another current mirror (i.e., second current switching device) (Fig. 8, reference M6; column 7, lines 38-42) providing input (i.e., switching a first control current) to the amplifiers (i.e., current amplifier arrangement).

Art Unit: 2644

4. Regarding Claim 2, Takato further discloses a battery voltage (i.e., a first supply voltage connection higher than any voltage on the twin cable) (Fig. 3, reference VBB) and a ground voltage (i.e., a second supply voltage connection lower than any voltage on the twin cable) (Fig. 3, top of reference M6) coupled respectively to the current mirrors (i.e., first and second current switching devices).

5. Regarding Claim 3, Takato further discloses the current mirror (i.e., first current switching device) being a double current mirror (Fig. 8, reference M5) with a first output and a second output and the other current mirror with a control input (Fig. 8, reference M6, bubble) and a controlled current input whereby the double current mirror has one output coupled to the amplifiers (i.e., current amplifier arrangement) (Fig. 8, reference 36) and the other output coupled to the control input of the other current mirror (Fig. 8, reference M6) and the controlled current input of the second current mirror is coupled to the amplifiers (i.e., current amplifier arrangement) (Fig. 8, reference 35).

6. Regarding Claim 4, Takato further discloses the double current mirror comprising a control input (Fig. 8, reference M5, bubble) the signal at which is formed by means (Fig. 8, reference 21, 22, 25) that sum the signal corresponding to the measured voltage across the telephone line (i.e., the measured voltage of the twin cable) (Fig. 8, reference A0, output) and the speech signal from the speech transmission and reception circuit (i.e., the alternating voltage signal given by the control unit) (Fig. 8, reference Rx).

7. Regarding Claim 7, Takato further discloses a first current amplifier (Fig. 8, reference 33, 35; column 7, lines 43-47) and a second current amplifier (Fig. 8, reference 34, 36; column 7,

Art Unit: 2644

lines 43-47) connected in parallel to the telephone line (i.e., the twin cable) to form a complimentary pair.

8. Regarding Claim 8, Takato further discloses a battery voltage (i.e., a first supply voltage connection higher than any voltage on the twin cable) (Fig. 3, reference VBB) and a ground voltage (i.e., a second supply voltage connection lower than any voltage on the twin cable) (Fig. 3, top of reference M6) coupled respectively to the current mirrors (i.e., first and second current switching devices) and the current mirror (i.e., first current switching device) being a double current mirror (Fig. 8, reference M5) with a first output and a second output and the other current mirror with a control input (Fig. 8, reference M6, bubble) and a controlled current input whereby the double current mirror has one output coupled to the amplifiers (i.e., current amplifier arrangement) (Fig. 8, reference 36) and the other output coupled to the control input of the other current mirror (Fig. 8, reference M6) and the controlled current input of the second current mirror is coupled to the amplifier (Fig. 8, reference 36) (i.e., the second current amplifier).

9. All elements of Claim 9 are comprehended by Claim 1 and it is rejected on the same grounds.

### ***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2644

11. Claims 5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takato in view of Svala (US Patent 4,458,112).

12. Regarding Claim 5, Takato further discloses the control input signal for the double mirror produced by an amplifier (i.e., an isolation amplifier) (Fig. 8, reference A0) coupled to the telephone line (i.e., the twin cable) and a current generator (Fig. 8, reference 25) and a node (Fig. 8, between reference 22 and 25) for summing the speech signal from the speech transmission and reception circuit (i.e., the alternating voltage signal given by the control unit) (Fig. 8, reference Rx) and the isolation amplifier output. Therefore, Takato anticipates all elements of Claim 5 except a low pass filter between the isolation amplifier and the summing means. Svala discloses a subscriber loop interface circuit in which loop voltage must pass through a low pass filter (Fig., reference LP) before being summed with the AC current signal (Fig., reference VR). Svala discloses that such a filter removes unwanted effects from the voice signal and provides more faithful reproduction (column 6, lines 51-56). As such, it would have been obvious to one skilled in the art at the time of the invention to apply low pass filtering of the loop signal before adding the AC speech signal as taught by Svala to the subscriber circuit taught by Takato for the purpose of realizing the aforesaid advantages.

13. Regarding Claim 10, in addition to the elements stated above apropos of Claims 1 and 9, Takato further discloses a buffer amplifier (Fig. 8, reference 21) and DC blocking capacitors (Fig. 8, reference 31, 32 and left of RX) (i.e., electrical isolation) between the telephone line (Fig. 8, reference 11) (i.e., twin cable) and the speech transmission and reception circuit (Fig. 3, reference 14) (i.e., the digital transfer system). Therefore Takato anticipates all elements except transmitting selection pulses from a digital transfer system to a telephone exchange. Svala

Art Unit: 2644

discloses using a clock output (Fig., reference CK) (i.e., selection pulses) from a switching network (Fig., reference SN) (i.e., digital transfer system) to control a current mirror (Fig., reference CM) in a SLIC (i.e., telephone exchange) for the purpose of generating a feed voltage on a subscriber line (column 2, lines 52-66). It would have been obvious to one skilled in the art at the time of the invention to apply pulse transmission as taught by Svala to the subscriber circuit taught by Takato for the purpose of generating a feed voltage on a subscriber line.

***Allowable Subject Matter***

14. Claims 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

15. The following is a statement of reasons for the indication of allowable subject matter:

16. Regarding Claim 6, as shown above apropos of Claim 4, Takato anticipates all elements except the double current mirror comprising an enable/disable input controlled by selection pulses from the control unit. Svala discloses using a clock output (Fig., reference CK) (i.e., selection pulses) from a switching network (Fig., reference SN) (i.e., control unit) to control a current mirror (Fig., reference CM) for the purpose of generating a feed voltage on a subscriber line (column 2, lines 52-66). As such, the controlled current in Svala does not correspond to the double current mirror claimed and the prior art fails to anticipate or make obvious the invention of Claim 6.

***Conclusion***

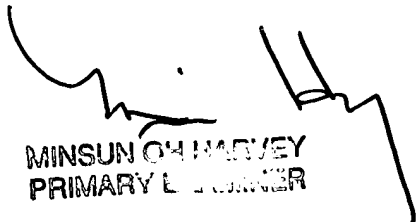
Art Unit: 2644

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Swerdlow whose telephone number is 703-305-4088. The examiner can normally be reached on Monday through Friday between 8:00 AM and 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forrester Isen can be reached on 703-305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ds



MINSUN OH HARVEY  
PRIMARY EXAMINER